

OMFTS: INNOVATIVE CONCEPT BUT CAN WE SUPPORT IT WITH FIRES

A MONOGRAPH

BY

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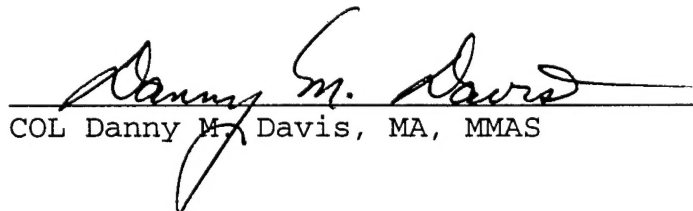
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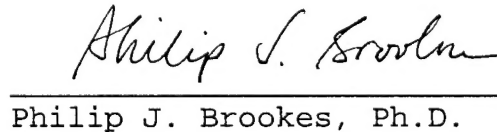
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ABSTRACT

OMFTS: INNOVATIVE CONCEPT BUT CAN WE SUPPORT IT WITH FIRES? by Lieutenant Colonel Joseph M. Lance III, USMC, 61 pages.

This monograph examines *Operational Maneuver from the Sea* (OMFTS), the U.S. Marine Corps' latest warfighting concept. The evolutionary outgrowth of the sea services' most current white papers, OMFTS focuses on the littorals.

The paper initially examines the definition of the operational level of war, and traces the history of operational art. From the Napoleonic Wars through the Russian Civil War, the tactical and strategic levels separated. The Russian military recognized the gulf between the two levels, but the American military did not grasp the importance of the operational level until after its failures in Korea and Vietnam.

OMFTS weds the current Marine Corps' philosophy of maneuver warfare with the operational level. By focusing on operational objectives, the Corps will increase its tempo while it eschews the traditional build-up phase of an amphibious assault. OMFTS promises decisive results by focusing on an enemy critical vulnerability.

This monograph concludes with the decision that we can support OMFTS with fires. The arsenal ships will reduce the naval surface fire support shortfall. The upgrades planned for the surface fleets' existing 5-inch guns may also have a great effect. Improvements to precision guided munitions and standoff weapons will also add to the viability of OMFTS.

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CHAPTER ONE

Operational Maneuver from the Sea is the United States Marine Corps' evolutionary approach to future warfighting. The concept builds upon the Department of the Navy's most current white paper *Forward...From the Sea* as well as the Marine Corps' current maneuver warfare doctrine as espoused in FMFM 1 Warfighting.

With the end of World War II, the U.S. Navy focused its efforts and resources on the possibility of a blue water battle royal with the Soviet Union. When the Soviet Navy began limping back into port in 1990, the U.S. Navy celebrated its victory in the bitterly contested but gratefully unrealized war. However, without the Soviet bogeyman to contest the oceans our Navy had to find a new purpose. In conjunction with the U.S. Marine Corps, the Navy published *...From the Sea* in 1992 as it refocused institutionally on green and brown operations.

...From the Sea was the Navy's 1992 response to the changing world situation, but its most obvious deficiency was the Navy's failure to provide surface fire support to the forces coming from the sea. Traditional carrier-based, land-based, and expeditionary air support systems were expected to augment the five-inch guns of the destroyers and cruisers. Unfortunately, the once proud 600 ship Navy was still shrinking. A Navy of

only 362 ships could not afford to fill its carrier battle groups with surface warfare escorts and still provide adequate numbers of ships for surface fire support. With literally billions of dollars invested in carriers, the obvious bill-payer was the surface fire support mission. Even if the Navy had the numbers necessary to support both missions, the quantity and quality of land-based, anti-ship missiles would make naval gunfire support to landing forces difficult if not suicidal. To support landing forces without jeopardizing its ships, the Navy needed bigger guns, better guns, more heavily armored ships, or all of the above.

In 1994, as it attempted to refine its doctrine and address the current world situation, the Navy followed ...*From the Sea* with *Forward...From the Sea*. *Forward...From the Sea* reaffirmed the primacy of the Navy's littoral focus, but it ignored the obvious discrepancy between the need for surface fire support and the Navy's ability to provide it. Finally, in 1995 the Navy began to seriously consider replacements for the battleships. Amid sharp questioning from Congress, the arsenal ship concept began to evolve. Former Chief of Naval Operations Admiral Mike Boorda fully supported the new concept and put the Navy to work on it. While the Navy proudly announced its plan to support *Forward...From the Sea*, the Marine Corps introduced its newest concept for maritime power projection *Operational Maneuver from the Sea* (OMFTS).

OMFTS examines the "chaos in the littorals" challenges of the 21st-Century. The Corps must attempt to reconcile the "dangers and opportunities created by new technologies," with the future of maneuver warfare. OMFTS recognizes the "worldwide breakdown of order" and the rise of new threats across the spectrum of possible conflict. Tribal, ethnic, and religious "fighters" without uniforms are proliferating throughout the world, and future conflict will more closely resemble the bitter struggle in Chechnya than the overwhelmingly one-sided victory in Desert Storm. Given the U.S. currently enjoys a monopoly on superpower status, OMFTS realizes we will not hold our position indefinitely. The rise of another superpower is only a matter of years away. If we fight a power equal to or greater than our own, we will have to skillfully apply our forces and weapons to win. The essence of OMFTS takes traditional amphibious tactical operations and raises them to a new level, the operational level. Instead of settling for a deliberate logistical buildup that hampered the desired operational tempo, OMFTS may take advantage of sea-based logistics as the maneuver force directs its efforts at the enemy's center of gravity. The concept of OMFTS sounds intriguing and inviting, but the question remains, will we be able to support it with fires?

CHAPTER TWO

General Norman Schwarzkopf, former Commander in Chief (CINC) of the United States Central Command (CENTCOM), in one of his many press conferences, ridiculed Saddam Hussein's performance as the military leader of Iraq during the Persian Gulf War. One of Saddam Hussein's greatest failures was his inability to grasp the basics of operational art. Although he had a huge, adequately equipped army, coalition forces soundly defeated him in the "Mother of All Battles." Hussein did not understand the modern nature of warfare, and his military leaders were unable to conceive of a meaningful concept of operations. Saddam Hussein's lack of military acumen caused him to underestimate the coalition's might and ensured his failure. To ensure our success, and to avoid the mistakes of the past, Marines must understand the nature of modern and future war, and we must be competent in the operational art.

Operational art springs from the operational level of war. Joint Chiefs of Staff Pub 1-02 defines the operational level of war:

The level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or areas of operations. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing events to achieve the operational objectives, initiating actions, and applying resources to bring about and sustain these events. These activities imply a broader dimension of time or space than

do tactics; they ensure the logistic and administrative support of tactical forces, and provide the means by which tactical successes are exploited to achieve strategic objectives.¹

The joint definition attempts to cover all bases, and include every nuance, however, inclusive though it may be, the definition is too lengthy to easily digest. A more concise Marine explanation comes from FMFM 1 Warfighting:

The operational level includes deciding when, where and under what conditions to engage the enemy in battle--and when, where, and under what conditions to refuse battle--with reference to higher aims.²

Here the essence of the operational level is easier to see. When and where do we fight or not fight, and most importantly why do we fight--with reference to higher aims. Bringing about or declining battle is often difficult to do at the tactical level, but at the operational level it is everything. Operational level commanders must set the conditions for the tactical level commanders. Saddam Hussein was unable to set the conditions for his subordinates, and thus, he suffered tactical and operational level defeats.

FMFM 1-1 Campaigning further refines the concept: "The operational level of war thus consists of the discipline of conceiving, focusing, and exploiting a variety of tactical actions to realize a strategic aim."³ Here the idea of discipline surfaces. Fighting at the operational level is not easy. Leaders must impose discipline upon themselves, their forces and their staffs. Self-discipline is necessary when a weaker opponent attempts to goad a stronger force into battle prematurely. Saddam Hussein's Khafji incursion may have been a

test of Coalition resolve and an attempt to upset the CENTCOM timetable. The CENTCOM CINC correctly recognized the strategic insignificance of the attack, and he refused to let himself or his forces deviate from the carefully laid plan.⁴

The operational level of war gives birth to the concept of operational art. Again, a joint definition exists to aid in achieving a common understanding:

Operational art--The employment of military forces to attain strategic and/or operational objectives through the design, organization, integration, and conduct of strategies, campaigns, major operations, and battles. Operational art translates the joint force commander's strategy into operational design, and, ultimately, tactical action, by integrating the key activities at all levels of war.⁵

Dr. James J. Schneider offers a more precise definition. "Operational art is the process by which the methods are selected that determine the application and utilization of combat power--the means--to achieve a desired end."⁶ This definition makes sense because it emphasizes that art is work in process, not a level. Amateurs cannot successfully practice operational art anymore than a monkey can paint a Mona Lisa. Only through years of study and analysis does an appreciation occur. Although the concept of operational art is finally catching on in the United States, few military professionals can trace its roots. To successfully practice operational art in the future, artists must benefit from both the skilled and unskilled strokes of their predecessors.

No unanimously agreed upon date stands out as the birth of the operational level of war and operational art, but many historians concede that the genesis of the concept began with

Napoleon and the French Grande Armée.⁷ In 1805, the Grande Armée had a qualitative and quantitative advantage over its foes. The levée en masse⁸ gave Napoleon numerical superiority, and a mature, fully integrated corps system gave him a significant quality advantage. Each of Napoleon's corps possessed a "particular resiliency and cohesion in battle that its opponents lacked."⁹ The corps organization may have been only the logical outgrowth of the divisional system,¹⁰ but it was innovative enough to give Napoleon a decisive edge. The crushing victories of Austerlitz (1805), Jena (1806), and Friedland (1807) demonstrated the French army staff's superiority as well as Napoleon's genius.

However, Napoleon's success had not gone unnoticed. Austria, Prussia, and Russia all studied their defeats searching for lessons. By 1809, the Austrians had re-organized and re-equipped their forces. Napoleon continued his winning streak in the War of 1809, but he could not recreate decisive Austerlitz-style victories. "The armies were so big that a battle now took days to fight. Battles became continuous and sequential."¹¹ As armies increased in size and matured in organization, the day of the decisive battle that decided the entire war passed.

Army size and composition had changed the face of war, but those were not the only significant changes of the Nineteenth Century. The Industrial Revolution began to churn out more effective weapons. The muzzleloaded, smoothbore musket gave way to the smokeless, breachloaded, magazine-fed rifle firing a cylindroconoidal bullet. The new rifles dramatically

"increased the tactical depth of the battlefield."¹² The increase in tactical depth produced an immediate effect upon the strategic level. Armies dispersed to increase their survivability, but they still tried to mass to force a decision at a single point. The battlefield expanded as large armies spread out. The Industrial Revolution solved some of the problems of controlling the huge armies by introducing the telegraph and the railroad.¹³ These changes brought about "The essence of operational art--distributed free maneuver."¹⁴

The first major conflict to experience the cumulative effect of all these changes was the American Civil War. To command and control huge armies over vast distances, an improvement over the corps system was necessary. The field armies directed by General Ulysses S. Grant were not only administrative organizations created as the logical extension of the corps system, but they were also strategic weapons when directed by a single, unified war plan.¹⁵ Grant's campaign plan of April 1864 may be justifiably deemed the birth of operational art. Grant's plan "to work all parts of the [entire Federal] army together, and...toward a common center"¹⁶ established the new way of war and bridged the gap between tactical actions and strategic goals. Recognizing this facet of Grant's generalship makes his success easy to understand. The rest of the world did not immediately recognize Grant's genius.

Most of Europe ignored the lessons of the American Civil War. The Austro-Prussian War seemed to contradict the American experience. Two great powers locked horns in what could have

been a protracted conflict, but the quick Prussian victory sent mixed signals to the world. The Austrians appeared to have the better cadre of military professionals, but the Prussians were actually better trained and organized. Austria suffered an early setback and decided to quit while it was only slightly behind, rather than risk losing its entire empire.¹⁷ Many observers drew the wrong conclusions from the battle. The decisive battle seemed to still be possible in European wars.

Unwilling to learn from America, the French were doomed to failure when Napoleon III declared war on Prussia on 19 July 1870. The "French leaders had no real systematic plan."¹⁸ Unable to efficiently mobilize a large army and unable to formulate a synchronized campaign plan, the French were doomed to defeat by a more capable, unified Prussian force under Helmut von Moltke and Prince Otto von Bismarck. The Prussians prepared and mobilized flawlessly, while the French stumbled and bumbled. The Prussians scored easy, decisive victories and sent Napoleon into exile, but the war did not end. Although the Prussians had clearly won the war, the fighting dragged on as France continued its feeble but frustrating resistance. Finally, on 28 January 1871, the siege of Paris ended with a successful armistice—from the Prussian point of view.¹⁹

Prussia dominated central Europe as a result of its easy victories against Austria and France. A united Germany, a reinvigorated France, a Czarist Russia struggling to hang on, and a vengeful Austria squared off in 1914. The actors all mobilized confidently as they predicted quick, decisive

victories. They failed to recognize the tremendous changes in warfare wrought during the Nineteenth Century. They refused to heed the lessons of the American Civil War, just as they ignored the writings and warnings of political-economist Ivan (Jan) S. Bloch.²⁰ The great waste of resources known as World War I resulted from political and military miscalculations. The battlefield had become a "meatgrinder" as further increases in technology yielded more and more efficient weapons. Quick, decisive victories were beyond the reach of even the most skilled military professionals. Before the war had ended, military men on all sides had begun the painful but necessary process of analyzing the battles to determine why they won or why they lost. Russia, knocked out in 1917,²¹ turned to internecine fights, as battles raged between Reds and Whites.

"The Red Army sought systematic explanations for the complexities underlying victory and defeat in modern war."²² Although Sigismund von Schlichting, the first military observer to grasp the new reality was not a Russian, his work attracted Russian attention as early as 1910. Schlichting studied the wars of the Nineteenth Century, and he noted the importance of operational maneuver.²³ The Russians turned to Schlichting to help explain their experiences in the Russo-Japanese War, World War I and the Russian Civil War. By the 1920s, the Bolsheviks had consolidated their power base, and a Russian "golden age of military thought" began. By 1926, A.A. Svechin had captured the trilogy of military art by explaining the relationship between tactics, operational art and strategy as an art.²⁴ Continuing

the exploration of operational art, Chief of the Red Army Staff, M.N. Tukachevskiy forced logistics instruction into the curriculum of the staff academy.²⁵

The Soviet military renaissance continued until Stalin purged the army of many of its greatest thinkers, including Tukachevskiy, in 1937-1938.²⁶ Minus many of his most experienced and capable military leaders, Stalin was only too anxious to sign the Nazi-Soviet Pact in 1939. While Hitler carved up Poland and later Western Europe, Stalin and the Red Army seized the Baltic Republics. Stalin attempted to continue his westward expansion, but the Finnish Army held off the Russians for six brutal months. Stalin's Red Army had great difficulty with an army one-third its size, but Russia finally prevailed. The six-month stalemate with Finland did not inspire tremendous confidence in the Red Army's abilities, so Stalin kept his promise to Hitler by sending oil and grain to Germany.²⁷

Stalin knew he was not prepared to fight against Hitler. When the Nazis attacked Russia in 1941, the Soviets were still not ready. The Red Army reeled backward or was captured as Hitler's Panzers employed Blitzkrieg warfare against the Red Army. After falling back hundreds of miles and losing millions of troops, the Soviets finally stopped the Nazis at Moscow and Stalingrad.²⁸ At what seemed to be the last possible moment, the Red Army stiffened its resistance and wrested the initiative from the Nazis. Having overcome its initial inability to quickly mobilize the required amounts of men and machinery, the Russians slowly but inexorably forced the Germans back.

Strengthened by American lend-lease equipment, the Russians built the logistics infrastructure to practice their version of operational art from 1943-1945. "Perfecting front and multi-front sequential and simultaneous operations," the Russians demonstrated a mastery of operations to at least rival the Germans of 1939-1942.²⁹

The American armed forces also demonstrated an appreciation for large-unit, simultaneous and sequential operations in World War II, but unlike the Soviets, we had no doctrinal or intellectual foundation for our actions. America formed armies, army groups and theater armies because they were the logical extension of the corps system. America's most senior field commanders had to learn their craft on-the-job.

When America rapidly demobilized after WW II, we lost much of the focus on operations. A smaller force—attempting to come to grips with nuclear weapons—did not need to concentrate on large operations.³⁰ Budget battles and political maneuvering occupied more of the services' time than theorizing about operational art. It is no small wonder American and United Nations forces struggled to achieve a tie in the Korean conflict. With the exception of the Inchon-Seoul operation, Korea was a series of tactical actions with little relationship to strategic objectives. The last two years resembled the static, defense dominated WW I Western Front more than the large-unit, synchronized offensive operations of WW II.³¹

The fighting in Vietnam did little to inspire American thought concerning operational art. Consistent tactical

victories failed to yield the desired strategic results. After Vietnam, the U.S. armed forces could no longer avoid the operational level of war. There had to be a way to link strategic goals with tactical actions. As the armed forces searched for the answer to the problem, the October 1973 Arab-Israeli War added impetus to the search. Modern mechanized war could prove to be incredibly violent, lethal and decisive. The U.S. could not afford to lose a modern war. The initial answer to the immediate problem was the "active defense."³²

Doctrine based upon fighting outnumbered was acceptable as long as it promised a reasonably believable chance for success. The "active defense" concept did not ring true to the soldiers. Leaders of field units did not accept or embrace the new doctrine, but it had one positive outcome. It sparked a healthy debate and led to increased intellectual thought. The search for an alternative to "active defense" led to the 1982 edition of the FM 100-5 Operations and the introduction of the operational level of war. Although it was not precisely defined in 1982, it was officially a part of land warfare doctrine in the United States for the first time.³³ The 1986 revision of the FM 100-5 refined the operational level and succinctly defined operational art as:

the employment of military forces to attain strategic goals in a theater of war or theater of operations through the design, organization, and conduct of campaigns and major operations.³⁴

The rediscovery of the operational level of war did not rest solely with the Army.

The U.S. Marine Corps published FMFM 1 Warfighting in 1989. The operational level figured prominently in the Corps' doctrinal manual.³⁵ Readily grasping the significance of the operational level, the Marine Corps followed FMFM 1 with FMFM 1-1 Campaigning in 1990. The entire manual--albeit only 103 pages including the endnotes--devoted to the operational level of war and its principal tool the campaign, demonstrated the Marine Corps' commitment to furthering the understanding and practice of the operational art.³⁶

The Marine Corps' victories of the future may depend upon our understanding of and ability to practice operational art. The concept has slowly, but inexorably, taken root in our doctrine, and we must be able to master it. The American public expects its armed forces to win battles quickly and decisively, with as little bloodshed as possible. This expectation cannot be fulfilled unless Marines understand the nature of modern warfare. An appreciation of operational art will provide the linkage between tactical outcomes and strategic goals.

CHAPTER THREE

The Marine Corps' latest warfighting concept *Operational Maneuver from the Sea* is the logical evolution of FMFM 1 Warfighting and FMFM 1-1 Campaigning, blended with *...From the Sea* and *Forward...From the Sea*. It continues the Marine Corps' tradition of innovation, but it goes one step beyond "our established record for strategic and tactical innovation."³⁷ OMFTS breaks new ground for the Corps by addressing the operational level of war. This bold concept exploits the unique capabilities of the Marine Corps and the Navy. However, OMFTS did not spring from the Commandant's head as a fully developed concept removed from doctrinal evolution. On the contrary, the Marine Corps had been steadily heading toward OMFTS since the late 1970s.

By 1979, the American Armed Forces were well into the post-Vietnam recovery. The loss of Vietnam had forced the political and military leadership to re-examine the doctrine that had been so successful tactically but so disastrous operationally and strategically. The U.S. Army had published its proposed solution in 1976 as FM 100-5 Operations. The "active defense" concept focused upon absorbing a Warsaw Pact onslaught in the "Fulda Gap." The Army in the field did not believe in the new concept. It appeared too defensive and too

mechanistic.³⁸ The debate raged during the late 1970s and early 1980s, and it culminated in 1982 with a new FM 100-5 and a new doctrine. AirLand Battle was a major improvement over the "active defense" because it acknowledged the existence of the operational level of war, and it addressed some characteristics of maneuver warfare.³⁹

The Marine Corps also searched for a new understanding of warfare in the late 1970s. The debate within the Corps focused on two "styles," maneuver and attrition. Maneuver warfare concentrated on the enemy, not the terrain, and it emphasized firepower as support for maneuver, not as an end in and of itself.⁴⁰ The maneuverists characterized attrition warfare as the traditional way of war emphasizing firepower, numbers of weapon systems, and unimaginative brute force. The maneuver warfare articles of William S. Lind appeared frequently in the *Marine Corps Gazette* during the 1980s.⁴¹ One of the most resolute advocates of maneuver warfare was General A.M. Gray. As the commander of the 2d Marine Division, MajGen Gray published specific guidance to his division:

Historically, maneuver warfare has been the means by which smaller but more intelligently led forces have achieved victory. It is, therefore, my intention to have us improve upon our understanding of the concepts behind maneuver warfare theory and to train our units in their application.⁴²

Although maneuver warfare was not the approved doctrine for the entire Marine Corps, it was the doctrine for the 2d Marine Division.

The maneuver\attrition debate continued in the Corps even after Commandant A.M. Gray published FMFM 1 Warfighting. The

Marine Corps doctrinal capstone manual prescribed maneuver warfare as "the authoritative basis for how we fight and how we prepare to fight."⁴³ Warfighting further described the new doctrine.

Maneuver warfare is a warfighting philosophy that seeks to shatter the enemy's cohesion through a series of rapid, violent, and unexpected actions which create a turbulent and rapidly deteriorating situation with which he cannot cope.⁴⁴

The debate continued and actually increased in volume, but it became a debate that played to a much larger audience. Instead of the maneuver disciples versus the attritionists—a label for anyone not sufficiently enlightened—most of the Marine Corps had to join in the discussion as it grappled with the doctrine.

Many Marines started from scratch in their quest for understanding and they began with the basic JCS definition:

1. A movement to place ships or aircraft in a position of advantage over the enemy. 2. A tactical exercise carried out at sea, in the air, on the ground, or on a map in imitation of war. 3. The operation of a ship, aircraft, or vehicle, to cause it to perform desired movements. 4. Employment of forces on the battlefield through movement in combination with fire, or fire potential, to achieve a position of advantage in respect to the enemy in order to accomplish the mission.⁴⁵

This definition does not capture the essence of maneuver warfare. Maneuver warfare is more than just maneuver in space. Its "first vital element is tempo."⁴⁶ Tempo means more than just speed. It implies acting faster than an enemy, forcing him to do things that are either wrong or irrelevant. "The idea is to move faster than the other can react and to react faster than the other can move."⁴⁷ Doing things quickly give no inherent advantage. Everything is in relation to the enemy over time.

A second key characteristic of maneuver warfare is the focus of effort, sometimes called Schwerpunkt or main effort.⁴⁸ This concept implies more than just the traditional main attack. It recognizes a commander concentrates his strength to achieve a decision while accepting risk elsewhere. This idea flies in the face of the usual "fair share" approach to task organization. A commander steeped in maneuver doctrine focuses his effort at the decisive point at the decisive time.⁴⁹

A third key area of maneuver warfare theory is the idea of surfaces and gaps. Surfaces are enemy strengths and must be avoided whenever possible. Gaps are enemy weaknesses and must be exploited when discovered. If the enemy shows no obvious gap, we must create one. Gaps may be spatial or temporal. A gap to one unit may be a surface to another. The warrior's judgement discerns gaps from surfaces, and subordinates' initiative in exploiting gaps allows the commander to respond to opportunities.⁵⁰

These key concepts reveal the essence of maneuver warfare. Since there is no definitive, authoritative description of maneuver warfare, philosophical differences remain. FMFM 1 Warfighting includes mission tactics, commander's intent, and combined arms as key components while other sources list such maxims as "avoid set rules and patterns" and "act boldly and decisively."⁵¹ Another discussion lists flexibility and decentralized command as key concepts.⁵² Whatever else it is, "Maneuver warfare is above all a philosophy concerning the means of defeat of the enemy."⁵³

As FMFM 1 Warfighting described how Marines should think about fighting, *...From the Sea* tried to describe how the entire Department of the Navy should think about fighting. Chief of Naval Operations Admiral J.M. Boorda summed it up best by writing, "With the demise of the Soviet Union and the decline of a blue water naval surface threat, we recognized that our challenges were now more likely to be found near and over land."⁵⁴ The Navy and the Marine Corps produced a white paper that advocated "Using the sea, air, and land as one continuous maneuver space."⁵⁵ *...From the Sea* was an important stepping stone along the way to OMFTS because it recognized the future of naval expeditionary warfare. Many USMC observers echoed the words of Major F.G. Hoffman when he wrote, "The change was dramatic and long overdue."⁵⁶ *...From the Sea* pointed the way for Navy and Marine Corps doctrinal development.

The shift in strategic landscape means that naval forces should concentrate on littoral warfare and maneuver from the sea. Maneuver from the sea, the tactical equivalent of maneuver warfare on land, provides a potent warfighting tool to the Joint Task Force Commander--a tool that is literally the key to success in many likely contingency scenarios.⁵⁷

To prove the Navy had seen the light concerning the role of doctrine in modern military operations *...From the Sea* announced the formation of the Naval Doctrine Command and tasked the new organization with a challenge.

The regional and littoral warfighting environment requires new doctrinal thinking to get the most out of integrating

the Navy/Marine Corps and the joint sea-air-land team. The new Naval Doctrine Command...will provide for smooth integration of Naval Forces into joint operations at any level, close the gap between the air-land battle and amphibious warfare, and translate "operational maneuver from the sea" into naval doctrine.⁵⁸

Although *...From the Sea* was a logical naval approach to changes in the strategic environment, not everyone within the Navy agreed with the new concept. Some sailors were especially rankled by the lack of importance attached to the Navy's bread-and-butter missions, sea control and strategic deterrence. They did not hide their divergent views.

...a careful reading (of *...From the Sea*) reveals that it stresses few traditional strategic concepts and overemphasizes crisis response along the littorals at the expense of broader, more enduring, major naval capabilities.⁵⁹

In 1994, amidst continuing debate, the Department of the Navy issued an evolutionary update entitled *Forward...From the Sea*. "*Forward...From the Sea* amplifies the scope of our strategic concept while confirming the course and speed for the Naval Service as defined in the original document."⁶⁰

Forward...From the Sea is a more sophisticated document than *...From the Sea*. It closely aligns itself with the *National Security Strategy* and the *National Military Strategy*. It reiterates the importance of littoral operations, but it shies away from directing a concentration of effort toward littoral operations. In fact, some observers feel it is a step backward, away from a focus on littoral operations. The need to project power or deter aggression still exists, and longstanding shortfalls in naval surface fire support, amphibious lift,

command and control systems, and mine warfare still require serious attention as an operational and fiscal policy.

However, the text warns that we need to proceed cautiously so as not to jeopardize our readiness for the full spectrum of missions and functions for which we are responsible.⁶¹ The Navy would be remiss if it did not address all possible contingencies, but the most prominent roles are in no danger of going begging.

Naval forces have five fundamental and enduring roles in support of the National Security Strategy: projection of power from sea to land, sea control and maritime supremacy, strategic deterrence, strategic sealift, and forward naval presence.⁶²

While the Navy appeared to be backpedaling concerning littoral operations, the Marine Corps steamed full-speed ahead.

Operational Maneuver from the Sea (OMFTS) became an official concept paper in December 1995. In a break from traditional amphibious thought, OMFTS seeks to free a landing force from its logistical Achilles heel in the beachhead.

The heart of *Operational Maneuver from the Sea* is the maneuver of naval forces at the operational level, a bold bid for victory that aims at exploiting a significant enemy weakness in order to deal a decisive blow. Mere movement, which may lead to indecisive results or even to be counterproductive, does not qualify as operational maneuver. That is to say, operational maneuver should be directed against an enemy center of gravity—something that is essential to the enemy's ability to effectively continue the struggle.⁶³

Operational Maneuver from the Sea blends the maneuver warfare doctrine espoused in *Warfighting* with the naval expeditionary focus of *Forward...From the Sea*. OMFTS rests upon six principles.

1. OMFTS focuses on an operational objective.
2. OMFTS uses the sea as maneuver space.
3. OMFTS generates overwhelming tempo and momentum.
4. OMFTS pits strength against weakness.
5. OMFTS emphasizes intelligence, deceptions, and flexibility.
6. OMFTS integrates all organic, joint, and combined assets.⁶⁴

Operational Maneuver from the Sea presents a "classic example" of operational maneuver from 1950.

It was a completely focused operation, unified under a single commander, that flowed coherently from San Diego, Sasebo, and Pusan, through an amphibious power projection at Inchon, to key objectives well inland.

The Seoul operation was focused on a critical North Korean vulnerability, the lines of support (and withdrawal) through the Han River Valley at Seoul. It maintained that focus and with it an unmatched tempo of aggressive action. As a result, it was crushingly successful, leading to the destruction of the North Korean Army and the liberation of South Korea.

If the operation had lost its focus, however, and been planned and executed as merely an amphibious lodgment at Inchon, it would have generated only an insignificant tactical "victory."⁶⁵

Another example from OMFTS demonstrates how important a force with the required capabilities could be. Using the Somalia situation as the example vehicle, OMFTS shows how future technology could solve the problems confronted by a joint task force trying to seize simultaneous objectives 240 kilometers apart at Mogadishu and Baidoa. The distance is insurmountable today with conventional forces, but next generation forces using OMFTS would find the distance less of an obstacle. Many Marines have identified the key systems necessary to move equipment and men from the sea to an inland objective, and much work has gone into eliminating today's obvious lift discrepancies.

This concept provides the joint task force commander with the ability to maneuver combat forces seamlessly from the sea to the objective area without the traditional impediment of the water's edge. Three key platforms, each at the cutting edge of technology, are required to turn this concept into reality. They are: a tilt-rotor aircraft (MV-22 Osprey), an Advanced Amphibious Assault Vehicle (AAAV), and the Landing Craft Air Cushion (LCAC) vehicle already in operation. Continued development of these visionary enhancements opens a new window to forcible entry operations and provides a more effective crisis response and sustained combat power.⁶⁶

While planners and budgeters seek to program solutions to the lift shortfall, less intellectual effort seems to be directed toward the other requirements of OMFTS. Certainly, the mine warfare portion is attracting some interest. The sea-based logistics piece is coming together and naval aviation has its sights set on its next series of aircraft carriers, but what about the need for fire support? How will the Armed Forces of the United States support OMFTS with fires?

CHAPTER FOUR

The visionary thinkers behind *Operational Maneuver from the Sea* realized traditional ways and means of providing fire support to maneuver forces would not be acceptable in future conflicts. The Capabilities section of OMFTS MCRP 0-1 requires the Marine Corps to significantly change its fire support focus.

To improve mobility ashore, we will increasingly take advantage of sea-based fires and seek shore-based fire support systems with improved tactical mobility. To support rapidly maneuvering forces, we must streamline our fire support coordination procedures to improve responsiveness. To provide effective fires, forces afloat and ashore require the ability to deliver fires with increased range and improved accuracy and lethality. Finally, we will use fires to exploit maneuver just as we use maneuver to exploit the effects of fires.⁶⁷

The very first sentence of the above quotation recognizes and validates the many complaints from Marines regarding a major fire support inadequacy--the lack of naval gunfire systems. This problem has hamstrung the Corps' ability to prosecute amphibious operations.

The U.S. Navy's reluctance to provide surface fire support assets is easily documented. Marines and soldiers concerned about future conflicts in the littorals decried the decision to retire the Iowa class battleships after Operation Desert Storm. Even the Congressional Budget Office recognized what the Navy could not or chose not to see.

In past wars, bombardment from ships was a primary means used to support amphibious assaults. Since the Navy retired its four battleships with sixteen-inch guns, the five-inch guns deployed on cruisers and destroyers have insufficient range and lethality to support such assaults.⁶⁸

Other independent analysts came to the same conclusion.

"Using these smaller guns with their shorter range will force ships to come dangerously close to coastal defenses and still will not provide firepower needed."⁶⁹ The answer obvious to many observers was to reactivate the battleships, but that was not a feasible solution for the Navy.

"I love the 16-inch guns, but they're an old system." They are also too manpower-intensive for the slimmer Navy of the future, (Vice Admiral Thomas J.) Lopez and (Nora) Slatkin told the senators. It takes 74 sailors to man the battleships' triple-gun turret compared with six for the 5-inch gun. Battleship crews total nearly 1,500 sailors and officers, more than four times as many people as a modern cruiser or destroyer.⁷⁰

Recognizing the Navy must come to grips with smaller defense budgets in the future, some analysts faced reality and said good-bye to the battleships while welcoming future technologies to enhance the existing five-inch guns. According to at least one such study, the requirements for new naval guns should include:

extending the range to 70 nautical miles from a current maximum of 15; a more explosive warhead; a more aerodynamic projectile to stabilize flight and improve accuracy; and, most important, miniature satellite and radar guidance systems which can direct a round to its target.⁷¹

The Marine Corps heartily agrees with the recommended requirements for improvements to the 5-inch guns. In December 1996, the Corps published "Naval Surface Fire Support for Operational Maneuver from the Sea."⁷² After over a year's silence, the Marine Corps finally settled on some tentative fire

support requirements for *OMFTS*. The document is significant because it officially delineated what the Corps expects the Navy to do to support littoral operations with surface fires.

The Marine Corps requirement revalidated the need for a naval gun to fire at least 41 nautical miles with a desired range of 63 nautical miles. These naval surface fire support (NSFS) ranges are critical to "complement and support the tactical mobility provided currently by LCACs--and eventually by advanced amphibious assault vehicles and the MV-22."⁷³ The requirement is challenging, but the Corps only requires a pledge to meet the milestones for initial compliance by 2010 and full operational capability by 2014.

The requirements for extended-range and increased-lethality naval guns did not blindside the Navy. Fully aware of their lack of naval gunfire systems, the Navy formed the Land Attack Warfare branch (N864) to analyze NSFS studies and develop solutions. N864 established "a weapons development plan focusing on near-term (2001), mid-term (2006), and long-term (2012) solutions to NSFS deficiencies."⁷⁴

The mid-term and long-term solutions focus on challenges involving adapting missiles for naval use and designing vertical gun advanced ships (VGAS), but near-term solutions attempt to meet the Marine Corps requirement for a naval gun with a 63 nautical mile range. Research and development efforts have produced a hybrid solution involving extending the 5-inch barrel an additional 40 inches, increasing the muzzle velocity with an advanced propellant, and producing an extended range guided

munition (ERGM). Old ships will receive refurbished 5-inch/54 mounts with strengthened slide assemblies, trunion supports, train bearing circle and recoil/counter-recoil systems. New ships, beginning with DDG 81, will receive the new 5-inch/62 mount capable of firing the ERGM. The ERGM projectile "uses a coupled Global Positioning System (GPS) and Inertial Navigation System (INS) for guidance."⁷⁵

A naval gun with a 63 nautical mile range will be a tremendous capability, but without the means to command and control it, the capability could be wasted. The Marine Corps' second NSFS requirement contains the need for:

all enhanced NSFS combatants and amphibious command and control shipping (must) have the capability to access, input, receive, and instantaneously process information into and from the Advanced [Field] Artillery Tactical Data System (AFATDS).⁷⁶

By requiring the Navy to incorporate AFATDS compliant architecture into amphibious command and control ships, as well as the actual NSFS delivery platforms, the Marine Corps seeks to ensure supporting arms coordination centers afloat and fire support coordination centers ashore can control both direct support and general support fires. The Navy fully intends to comply with the AFATDS requirement through its NSFS Warfare Control System (NWCS).⁷⁷ Control of NSFS via AFATDS and delivery at extended ranges are important, but no mission can begin without target acquisition.

The third Marine Corps NSFS requirement is a "specified need for NSFS to possess the capability to acquire counter-battery targets."⁷⁸ This requirement may initially appear to be

a tremendous challenge for the Navy to meet, but it is not impossible. The *Iowa*-class battleships employed remotely piloted vehicles to aid target acquisition efforts during the Gulf War.⁷⁹ A similar solution is possible for future NSFS combatants although the number one long-term NSFS candidate, the arsenal ship, has no requirement for target acquisition capability.⁸⁰ To address this capability, the Marine Corps encouraged the Navy to explore ways to adapt its tremendously capable radar on the *Ticonderoga*-class cruisers and *Arleigh Burke*-class destroyers.⁸¹ This state-of-the-art radar specializes in air and space surveillance, but with a determined research and development effort it should be convertible to surface surveillance and target acquisition. By fulfilling these requirements, the Navy would go a long way toward honoring its pledge to focus its efforts and attention on littoral warfare.

Enhanced naval gunfire capabilities are important for littoral warfare and *OMFTS*, but there are other ways to support with surface delivered fires. Tomahawk cruise missiles, and a Naval version of Army Tactical Missiles (NATACMS) may also support naval expeditionary and land forces with timely, accurate fires. A future system, Fasthawk, is also on the drawing board.

"Tomahawk is a long-range anti-ship and land attack missile."⁸²

More than 400 Tomahawks have been fired since the beginning of Operation Desert Storm--all with an 85% or better success

rate, validating the Surface Navy's precision power projection more than 1,000 miles inland.⁸³

The first Tomahawk land attack missile (TLAM) took wing in 1979 and by 1983 Tomahawks were operational on *Los Angeles*-class submarines. Originally designed with nuclear and conventional high-explosive warheads using a complex and cumbersome targeting and tracking solution, the Tomahawk has steadily evolved into its current unitary warhead and bomblet dispersing Global Positioning System (GPS) enhanced variants. The improved Tomahawk struck sites in Bosnia in September 1995 and in Iraq in 1996 with success rates over 90 percent. A mature missile system, Tomahawk is a high-performance but also high-cost system.

While Tomahawk Block II, III and IV have a littoral capability, their importance to the deep-strike mission may limit their availability for the shorter range coastal campaign. To accommodate this deficiency, there is a proposal to produce a littoral warfare weapon based on the existing Harpoon missile system. Harpoon Block II would use the joint direct attack munition, GPS/INS guidance system and retain its 500-pound blast/fragmentation warhead.⁸⁴

This statement, by the head of N864, attempts to allay fears that the Navy will not pursue the next logical step in Tomahawk evolution, an antiarmor missile using either Brilliant Antiarmor Technology (BAT) or Search and Destroy Armor (SADARM). This improvement is a requirement if the Surface Navy truly intends to achieve a missile-based deep strike antiarmor capability.

One possible alternative to counter the antiarmor threat is a naval version of the Army Tactical Missile System (NATACMS). The Navy has shown enough interest in the program to

develop an extended-range naval version and to complete two test flights in 1995. The Navy favors the Block IA version with GPS, which provides a range greater than the Block I, while delivering 275 M74 bomblets. The M74 carries a composition B payload with incendiary pellets in a tungsten fragmentation sleeve. The Block II version, anticipated in 1997, will deliver 12 BATs and future versions will deliver BATs at ranges up to 270 nautical miles.⁸⁵ Precision guided missiles promise great results but they still must be fired from a naval platform configured for the mission. Currently, naval surface warfare vessels are optimally tasked with their antiair, antisurface and antisubsurface missions. Dedicating *Ticonderoga*-class cruisers, *Arleigh Burke*-class destroyers, or the future surface combatants of the SC-21 program to the surface fire support mission is not something the Navy plans to do. Another alternative is under consideration.

The Navy's most visible program to enhance its otherwise nonexistent surface fire support capability is the proposed arsenal ship. The brainchild of former Chief of Naval Operations Admiral J.M. Boorda,⁸⁶ the arsenal ship program is an innovative attempt by the Navy and the Defense Advanced Research Projects Agency (DARPA) to involve industry in ship design at the earliest possible opportunity. The arsenal ship program listed its desired capabilities, explained its intended concept of operations, and then tasked industry to balance the requirements and design the most capable ship within price restrictions. Industry will have to balance the inevitable

trade-offs between stealth, speed, armament, sea worthiness, and survivability.⁸⁷

The arsenal ship capabilities document requires industry to design and build a technology demonstrator by the year 2000. The arsenal ship must be able to carry up to 500 vertically launched system (VLS) missiles, and it must save room for an extended-range gun system, although it does not need to deploy the gun initially. Besides the 500-missile capability, the arsenal ship must also demonstrate other critical features. Deploying a crew no larger than 50 sailors, with a preferred size around 20, the arsenal ship must capitalize upon the Cooperative Engagement Capability (CEC) communication system. The CEC will allow the Navy to transfer the target acquisition and fire direction functions to other vessels or platforms. The function transfer will drastically reduce the crew size, allowing the Navy to reach its arsenal ship manning goal. The Navy plans to procure up to six arsenal ships.⁸⁸

Sea-based fires are not limited to surface warfare vessels. Naval aviation will play an important role in providing fire support for *OMFTS*. The Navy plans to continue its reliance on aircraft carriers because it feels they are the platform of choice in any crisis.

As a maritime nation, our unrestricted access "from the sea" has enabled the carrier to respond to over 200 crises since World War II. ...Last year alone (1994), carriers and their embarked air wings responded to nine different crises throughout the world.⁸⁹

The Navy firmly believes carriers will be the first credible military force on the scene of an impending crisis, and

it will be the last force to depart a crisis. The future carrier, designated CVX class, will require cutting edge technology and new employment concepts to allow the Navy to reduce costs while maintaining capability.⁹⁰ The aircraft that fly from these carriers must be able to deliver extremely lethal ordnance with unprecedented precision to support *OMFTS*.

The aircraft of choice for the future of naval aviation appear to be the F/A-18 E/F models and the Joint Strike Fighter (JSF). The F/A-18 E/F Super Hornet will handle the interceptor/fighter role while the JSF takes on the strike/ground support missions.⁹¹ The JSF will be able to call upon an improved family of munitions as it strikes targets in support of Marines conducting *OMFTS*. These weapons carry manly names like Standoff Land Attack Missile Expanded Response (SLAM-ER), Joint Standoff Weapon (JSOW), Sensor Fuzed Weapon System (SFW), and Joint Air-to-Surface Standoff Missile (JASSM).

SLAM-ER is an upgrade that extends the SLAM to a range of 100 nautical miles. SLAM-ER carries a GPS receiver to update its INS and about ten miles from the target it activates an imaging infrared receiver (IIR) to provide terminal guidance. While the SLAM-ER carries an impressive range, it does suffer from one drawback. A pilot or bombardier in the launch aircraft or in a control aircraft must lock it on to the target.⁹² This implies someone must view the video imagery of the target area, possibly exposing the aircraft in the process. This "drawback" may be mitigated if a secure datalink is established with an unmanned aerial vehicle (UAV). SLAM-ER promises to deliver extended

range and increased precision, but missiles are expensive. Additional, less costly alternatives must also be capable of supporting *OMFTS*.

A weapon system employing a high-altitude launch and controlled glide should be capable of delivering a lethal payload at extended ranges. The JSOW promises to fill this niche. The JSOW is the first new, longer range, autonomous, air-to-surface weapon designed for both Navy and Air Force aircraft. The 13-foot-long JSOW is an unpowered glide vehicle with a modular payload bay that can carry a variety of munitions. JSOW's high-altitude launch range is 50 to 60 nm.⁹³

JSOW's great value is in its ability to deliver several different payloads, from current combined effects munitions (CEM), to SFWs, to a new unitary blast/fragmentation warhead to replace the Mk-82 500-pound bomb. JSOW, like SLAM-ER, works off an integrated INS/GPS system.⁹⁴ With a 50-mile range, JSOW allows aircraft to deliver ordnance on target without exposing themselves to the full range of antiair threats.

One of JSOW's most promising payloads is the Sensor Fuzed Weapon. Each SFW or BLU-108/B consists of four terminally guided Skeet "smart" antiarmor warheads. The Skeet consist of a canister with an infra-red (IR) sensor and a penetrating shaped charge. The sensor, resistant to countermeasures, detects a target, computes an aimpoint and fires the warhead. A JSOW could carry six BLU-108s delivering a total of 24 antiarmor projectiles.⁹⁵

The Joint Air-to-Surface Standoff Missile is a future project designed to keep attack aircraft out of the expected future air defense umbrella.

JASSM's unstated purpose is to allow a broad range of nonstealthy aircraft to "get back into the game"--to strike heavily defended, high-value targets that have been the exclusive preserve of USAF's F-117 stealth fighter and the US Navy's Tomahawk sea-launched cruise missile.

JASSM's IIR seeker coupled to automatic target recognition (ATR) software will allow conventional aircraft to successfully engage targets at half the current cost while maintaining or bettering the Tomahawk's circular error probable. JASSM is capable of breaching and taking down heavy air defenses early in a conflict.⁹⁶

A fully operational JASSM clearly has tremendous potential for expeditionary forces operating from the sea.

High-tech, precision-guided standoff weapons are exciting, but to fully support OMFTS, aviation may have to undergo some additional, less enjoyable changes. One possible concept that is gaining some attention is the idea of hunter (Jaeger) aviation. An aviator with the hunter mindset can be a tremendous asset for a naval expeditionary force.

He stalks the enemy, striving to see him first. As the eyes for the infantry, tanks, or surface fleet, the pilot is the first to sense danger. Understanding the force's intent and the friendly scheme of maneuver on the surface and familiar with the enemy's predisposition, hunter aviation separates friend from foe and attacks on its own initiative.⁹⁷

OMFTS practically begs for a concept like hunter aviation because it promises to do the things required for maneuver warfare in the littorals. Naval aviation must probe the fringes of the littorals and extend the battlespace of the naval expeditionary force. Piloting vehicles unencumbered by line-of-sight terrain masking, and providing a larger field-of-view than

an unmanned aerial vehicle, properly trained hunter aviators can seize the initiative and force the enemy into a death spiral of poor reactions. The concept promises some interesting and enviable results, and it deserves further exploration. Although no hunter aviation squadron exists today, a proposal to conduct a five-year pilot program has rightfully earned considerable attention.⁹⁸

With all the effort expended by the Navy to address its deficiencies in sea-based fire support, it is only fair to question what the Marine Corps is doing about its problems. The *OMFTS* framers specifically targeted the M198 howitzer when they wrote, "To improve our mobility ashore, we will increasingly... seek shore-based fire support systems with improved tactical mobility."⁹⁹ The M198 was the 155mm-towed howitzer, which in the early 1980s, replaced the venerable, World War II era, M101A1 105mm howitzer.

The M198 successfully addressed the M101A1's shortfalls in range, lethality and future potential. However, the improvements came at a high cost in reduced tactical mobility. At 15,750 pounds, the M198 requires a 5-ton truck to pull it, and even then the truck and gun bog down in mud, snow or loose sand. Marines have long complained about the M198's lack of mobility, and finally, a solution appears to be on the horizon.

The Marine Corps and the Army selected a new Lightweight 155mm howitzer in March 1997.¹⁰⁰ The Lightweight 155mm howitzer retains the conventional and rocket-assisted ranges of the M198, but weighs only slightly more than half as much as the M198.

The new howitzer's increased mobility enhances its survivability by allowing it to emplace in rough terrain. The lighter weight allows for faster emplacement and displacement, increasing the amount of time the howitzer is available for missions. A semi-automated breech provides for a higher rate of fire than the M198, which adds to the Lightweight 155's lethality. Many preplanned product improvements are in development including a digital fire control and positioning system, a computerized direct-fire sight, a laser rangefinder, increased night-vision capability, a semiautomated loader, and traverse and elevation power assist mechanisms. The new howitzer will achieve initial operating capability (IOC) in fiscal Year 2002.¹⁰¹

The only apparent drawback to the Lightweight 155 is the failure to produce a range increase over the M198. The conventional range maximum of 24 kilometers leaves Marine artillery outranged by many other current indirect fire systems.¹⁰² One way to compensate for this apparent discrepancy is to push Marine artillery as far forward as possible. This approach can work with a mobile, survivable system like the new Lightweight 155. Another approach is to use the power of Marine Aviation as an asynchronous answer to the counterfire battle. This has been and will continue to be the preferred Marine method of responding to an enemy demonstrating an impressive artillery threat. The third way to prepare for the possibility of being outgunned and outranged is to pursue a general support rocket system. Many different systems are available today.

The most promising rocket system for the Marine Corps is the High Mobility Artillery Rocket System (HIMARS). HIMARS would finally address a requirement validated by the Corps as early as 1990. The Corps recognized the critical need for a general support rocket system and made it a higher priority than the Advanced Assault Amphibian Vehicle (AAAV) or the MV-22 Osprey. However, it removed the Multiple Launch Rocket System (MLRS) from the 1994 Program Objective Memorandum (POM) when the Army agreed to support the Corps with MLRS when necessary. HIMARS, a six-rocket pod mounted on a 900 series 5-ton truck, would give the Corps a general support rocket capability without the burdensome logistical tail incurred by MLRS.¹⁰³ HIMARS would provide a great increase in Marine artillery capability, and it could be available in 2005 or earlier if the program receives greater emphasis.¹⁰⁴

Weapon systems of the near future promise significant improvements in range, precision, and lethality, but hardware alone may not be the answer to the question of how to support OMFTS with fires. Just as aviators have begun changing the way they approach ground support with the hunter (Jaeger) aviation concept, ground fire supporters may need to change the way they have traditionally done business. Changes in both structure and procedures are possible to enable the fire support system to make its maximum contribution to OMFTS.

One concerned fire support observer feels structural change is long overdue.

To implement OMFTS, the Marine Corps needs to reexamine new organizations and methods to control and coordinate fire support. A vital element for success on the future battlefield will be the ability to control all fire support assets at the lowest levels.¹⁰⁵

More than one author has recommended the Corps adopt a solution similar to the U.S. Army Fire Support Team (FIST) concept.

(The Army FIST) addresses the problem of providing increased coverage of observed fires and improves the Army's ability to shift and mass fires from mortars, field artillery, attack helicopters, tactical aircraft, and NGF.¹⁰⁶

The current Marine approach to fire support is to send observers to the infantry from each specific weapon system. Artillery sends an observer, mortars send an observers, naval gunfire sends an entire spot team, the aviation community sends a forward air controller and the maneuver unit is overwhelmed with seemingly redundant fire support representatives. The obvious solution is one "universal" observer or spot team¹⁰⁷ trained in all aspects of fire support. This fire support specialist would represent all fire support assets and would be the platoon level fires expert. This consolidation of fires representatives would reduce the platoon footprint, enhancing its mobility and would ensure all-around fires expertise at the point of the spear where it is needed the most.¹⁰⁸

Another problem with Marine fire support is the "stovepipe architecture that offers little flexibility."¹⁰⁹ The current analog (type to type only) system will not maximize the effects of fires for OMFTS. There is a solution on the horizon with the proposed fielding of the advanced Field Artillery

Tactical Data System (AFATDS). Slated to begin fielding Version-2 to the Corps in 1998, AFATDS promises to build upon the foundation laid by the current Initial Fire Support Automated System (IFSAS) and resolve the stovepipe problem. AFATDS will include the Tactical Air Software Module (TASM) to allow Marine Fire Support Coordination Center (FSCC) access to the Contingency Theater Automated Planning System (CTAPS). This link will not remove the key role played by the Direct Air Support Center (DASC), but it will improve the FSCC's "ability to quickly assign available (air) sorties to attack targets of opportunity."¹¹⁰

The capability AFATDS will deliver for air tasking and processing is impressive, but it handles more than just air sorties.

AFATDS Version 2 takes into consideration the full fire support package. It recognizes that a call for fire is nothing more than a call for fire. All sensors (observers) use the same K204 message format to accomplish the same task, regardless of the medium to support that request.¹¹¹

AFATDS will receive the K204 call for fire and choose the appropriate and available fire support agency to attack the target. AFATDS derives its solution from the data programmed into it from the Joint Munitions Effectiveness Manual (JMEMS). Marines leery of computers need not worry about automation taking over the battle, making indiscriminate decisions about weaponeering, and removing the human leader from the equation. AFATDS allows the fire support coordinator to configure the system such that any decision it makes is based on the maneuver

commander's guidance. AFATDS is the system that will provide the necessary architecture to digitize and integrate the entire fires spectrum. This procedural improvement will put the fire support community well on the road to properly supporting OMFTS.

MCRP 0-1, the base document for OMFTS, requires the Corps to improve several fire support areas before OMFTS can become a reality. The first improvement needed is in sea-based fire support. The Navy is--probably more than at any other time in its past--making a serious effort to upgrade its ability to deliver fires from the sea.¹¹² The Navy is making improvements to its land-attack missiles, air-to-surface ordnance, and its naval guns. It is even examining concepts like hunter (Jaeger) aviation that improve the way it supports the littoral fight. The second required improvement involves land-based indirect fire support. The Lightweight 155 will dramatically enhance Marine artillery's tactical mobility while improving its lethality by increasing the rate of fire. New systems such as HIMARS promise to deliver general support rocket fire with less logistical baggage than the MLRS. The third OMFTS requirement dictates streamlining fire support coordination procedures. Adapting the fire support system to the FIST concept and fielding AFATDS will deliver the required changes in fire support coordination procedures and structure.

All of the proposed improvements point to the overall goal of supporting a naval expeditionary force practicing OMFTS, but no individual program has all the answers. Marine fire supporters must not relax because many questions remain.

During the last ten years, grunts have witnessed declining numbers of Marine artillery tubes coupled with the decision to strike fully operational *Iowa*-class battleships from the naval register. What will fill these fire support holes? How much will it cost? How many can we afford? When will it be available? Is it what we need?¹¹³

To answer these questions the Marine Corps needs to pursue a holistic approach to fire support for OMFTS. The Navy has taken a giant leap forward by establishing N864, and the Marine Corps should take a parallel approach. A focused, dedicated point of contact for fires would ensure that by the time the MV-22 and AAV are ready to practice OMFTS, the fire support the Corps needs will also be ready.

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